

Review

Children's thinking about group-based social hierarchies

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Wealth, power, and status are distributed unevenly across social groups. A surge of recent research reveals that people being recognizing, representing, and reasoning about group-based patterns of inequity during the first years of life. We first synthesize recent research on what children learn about group-based social hierarchies as well as how this learning occurs. We then discuss how children not only learn about societal structures but become active participants in them. Studying the origins and development of children's thoughts and behavior regarding group-based social hierarchies provides valuable insight into how systems of inequity are perpetuated across generations and how intergroup biases related to wealth, power, and status may be mitigated and reshaped early in development.

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Social stratification

Across the world, **wealth** (see [Glossary](#)), **power**, and **status** are distributed unevenly. Sociologists characterize these patterns of inequity as **social stratification** – the structuring of society into **social hierarchies** in which some groups of people hold greater wealth, power, and status than others. Importantly, social stratification intersects with other **social categories** (e.g., gender, race, nationality), resulting in specific types of stratification (e.g., gender stratification, racial stratification, global stratification) whereby people's group memberships shape their social standing, opportunities, and experiences in the world.

Research in social psychology has revealed that group-based hierarchies exist not only in the world but also in people's minds [1–3]. People's representations and attitudes regarding social hierarchies guide their social perceptions and interactions [4,5], often leading to pernicious outcomes such as **stereotyping** and **prejudice** [6,7], and even the legitimization of **structural inequalities** in the world [8–11]. On the flip side, an awareness of group-based hierarchies and inequalities in society also provides a necessary foundation for motivation toward social change [12,13]. For these reasons, an important question for psychological scientists concerns how group-based hierarchies initially become represented in people's minds, especially among young children as they first learn about social systems.

A surge of recent research on the development of social cognition investigates how young children learn and think about the stratified structure of the world around them. This research reveals that young children recognize and represent differences in wealth, power, and status between social groups (e.g., [14–19]). But beyond uncovering when representations of group-based hierarchies form, the value of a developmental perspective lies in the opportunity to uncover how these representations take shape. Studying thinking about group-based stratification as it develops allows for a real-time examination of the mechanisms at play, the influence of early-life contexts and experiences, and the routes through which children come to uphold or challenge societal structures.

Highlights

Social stratification along lines of wealth, power, and status is prevalent in the world and is mirrored in people's representations of the social world.

Children come to use social group information to predict who is likely to hold greater wealth, power, and status in ways that, over development, increasingly reflect an awareness of group-based hierarchies in the world.

Children learn about group-based hierarchies from a range of inputs including their direct observations, people's non-verbal behaviors and intergroup interactions, and people's verbal statements about groups.

Whereas children show an early emerging tendency to perpetuate group-based hierarchies, efforts to rectify group-based hierarchies develop more gradually and involve explicit awareness of group-based inequities and their structural origins.

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Here, we first review research on children's conceptual abilities to recognize asymmetries in **social rank** – in other words, where people are positioned in a social hierarchy. We then turn to evidence that children begin thinking about different social groups as having differing amounts of wealth, power, and status. We next synthesize research on the mechanisms through which learning about group-based hierarchies in the world occurs. In the remainder of the paper, we focus on how children not only learn about the social world but become active participants in social systems, capable of reifying or rectifying the hierarchies about which they become aware (Figure 1). Our goal in presenting this literature is to provide an overview of this quickly growing research area and to spark future questions within it.

Early abilities to recognize and reason about social rank asymmetries

Beginning early in life, children are sensitive to basic markers of power asymmetries. For example, infants expect bigger (vs. smaller) individuals and numerically larger (vs. smaller) groups to prevail in zero-sum conflicts [20,21]. Further, toddlers expect those who prevailed in the past to prevail in the future and across contexts [22,23], and expect resource distributions to favor those who prevail [24].

As children develop, the range of cues they recognize as indicating social rank broadens and becomes increasingly nuanced. Children begin to infer individuals' relative rank from cues including physical appearance (e.g., posture and facial features [25,26]), resource quality and quantity (e.g., [27–30]), and degree of control and influence over others (e.g., [29–33]) (Box 1). In one study [30], researchers showed 3–9-year-old children vignettes depicting interactions between individuals and asked the children which character was 'in charge'. By age 3, children said that individuals who controlled resources, achieved goals, and gave others permission were 'in charge', and by age 5, children also conferred rank to those who set norms [30]. In sum, young children are sensitive to a range of cues to wealth, power, and status differences when thinking about individuals and their interactions.

However, representing the structure of the social world involves not only noticing social rank asymmetries between individuals but also attending to broader patterns across groups. An emerging theme in recent years unites research on children's early sensitivity to social rank with research on the development of **social categorization** to ask whether children may also come to view social identities as indicative of social rank. In the next section, we review evidence that children indeed begin to use social category information to predict who is likely to hold greater wealth, power, and status. We focus in particular on gender and race as two prominent examples of social categories about which children's developing thinking increasingly reflects an awareness of group-based hierarchies in the world.

Using social category information to predict social rank

Children's thinking about gender and social rank

Children's early emerging tendency to prefer people in their own gender group is one of the most commonly replicated findings in the gender cognition literature (e.g., [34,35]). Children's gender ingroup favoritism suggests they might confer higher rank to members of their own gender group, just as they confer other positive attributes to their own group. However, recent research reveals a different picture: by the early elementary school years, both boys and girls view boys as having greater decision-making power [15,17,26], more resources [17], and higher-status positions [17,18,36–38] than girls. Indeed, the disconnect these studies reveal between girls' social preferences and awareness of inequities demonstrates how children's appreciation of social stratification goes beyond simple ingroup–outgroup categorization (Box 2).

Glossary

Dominance: control or force over others (see also power).

Essentialism: the view that the social category memberships of an individual reflect inherent, stable, and meaningful information about them.

Intersectionality: the interaction of social categories and associated forms of oppression producing individuals' specific identities and experiences.

Power: the ability to influence or exert control over resources and outcomes, even in the face of opposition (see also dominance).

Prejudice: a valenced attitude about a social category.

Prestige: respect or admiration conferred by others (see also status).

Privilege: unearned advantage resulting from one's social category membership.

Social category: a group of individuals who share socially relevant characteristics or features.

Social categorization: the process of sorting individuals into groups based on societally relevant characteristics and features.

Social dominance orientation (SDO): a measure of an individual's acceptance and support for social hierarchies.

Social hierarchies: the ranking of individuals or groups along a valued dimension.

Social rank: the position of an individual or group within a social hierarchy.

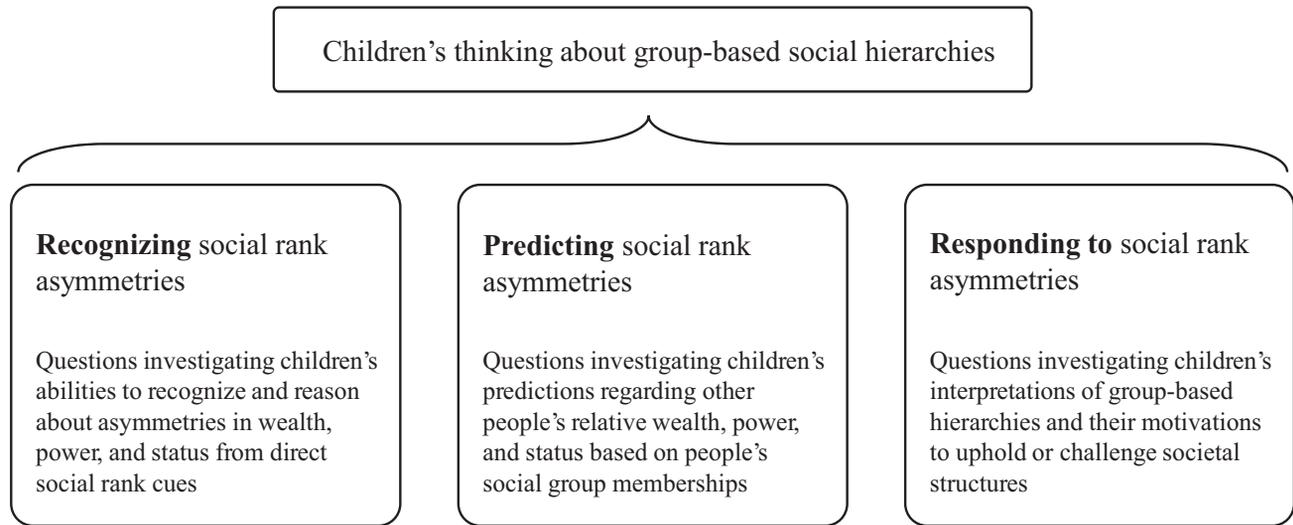
Social stratification: the structuring of society into social hierarchies based on wealth, power, or status.

Status: value and prestige in the eyes of others (see also prestige).

Stereotyping: the attribution of a generalized characteristic to members of a social category.

Structural inequalities: disparities in wealth, power, or status that are produced and upheld by societal institutions, values, and norms.

Wealth: an individual's or group's quantity and quality of resources and possessions.



Trends in Cognitive Sciences

Figure 1. Three questions central to understanding children's thinking about group-based social hierarchies. (Left) Questions focused on children's ability to recognize markers of social rank asymmetries (discussed in the section 'Early abilities to recognize and reason about social rank asymmetries'). (Center) Questions focused on children's group-based predictions about people's social rank (discussed in the section 'Using social category information to predict social rank'). (Right) Questions focused on children's responses to social rank asymmetries (discussed in the section 'Responding to group-based social hierarchies').

In one study, 3–6-year-old children in the USA viewed a rope ladder (Figure 2) and heard that the top (vs. bottom) of the ladder indicated having more toys and clothes and greater control over what other people do. When asked to place boy and girl characters onto the ladder, children

Box 1. Power versus status

Power and status often co-occur but are likely distinct. Whereas power is enacted (through control over resources and outcomes), status is conferred (through the respect and valuation of others) (reviewed in [120]; for a related distinction between **dominance** and **prestige**, which map closely onto power and status, respectively, see [121, 122]).

Dual considerations of power and status appear in reasoning about social rank early in life. For instance, children differentially employ the same social rank cues depending on whether a context evokes power or status. For example, whereas infants expect physically bigger (vs. smaller) individuals to achieve their goals in zero-sum conflicts (that likely bring to mind considerations of relative power) [20], infants do not expect physically bigger individuals to prevail when one individual simply follows the other (without any indication of conflict) [123]. Likewise, whereas infants and children think that numerically larger groups are more likely to prevail in zero-sum resource conflicts [21, 124, 125], young children do not necessarily view larger group size as a cue to higher status [125].

Young children also hold different expectations about those with power versus status. In one study [126], 21-month-old children were introduced to a group and an individual who acquired social rank through either force or respect. Whereas toddlers expected the group to obey the forceful individual only in the presence of this individual, toddlers expected the group to obey the respected individual in both the presence and absence of this individual [126]. Thus, young children distinguish between power and status, both in the cues they use to infer social rank and in their expectations of high-power and high-status individuals.

At the same time, further evidence suggests that a distinction between power and status widens gradually over early childhood [31, 127]; whereas reasoning about power seems to emerge early and remain relatively stable over development, reasoning about status develops more gradually over the early childhood years [125]. One possibility is that reasoning about power may be more concrete – often based in physical interactions or represented visibly – whereas reasoning about status may involve representing more abstract social relations and concepts (e.g., respect, social value, knowledge). Whether and how differences in the developmental trajectories of reasoning about power and status inform the development of children's thinking about group-based hierarchies remain important open questions. However, an intriguing possibility is that notions of social rank emerging earliest in life (e.g., power, dominance) may remain particularly intuitive into adulthood.

Box 2. Decoupling social rank and social preferences

It makes sense that children’s social preferences and their thinking about societal-level hierarchies may often parallel one another. One way to think about group-based hierarchies (and status hierarchies in particular) is as society’s relative valuation of different groups (i.e., societal-level preferences). Reflecting this, children’s relative preferences between outgroups mirror groups’ relative positions in group-based hierarchies and inequalities in the world [16,55–57], and children’s inferences about the relative wealth, power, and status of different groups often correlate positively with children’s social group preferences [16,19,27,51,67,73].

At the same time, research provides evidence that children’s thinking about social rank goes beyond simple ingroup–outgroup categorization or their preferences for some groups over others. For example, although 5–10-year-old children in India ascribed higher status to speakers of British English than to speakers of Tamil (their linguistic ingroup), they tended to say that speakers of Tamil were kinder [63]. In another study, 3–6-year-old girls in the USA chose gender ingroup members as social partners, but they did not associate their gender ingroup with having greater wealth or power ([15], also [40]).

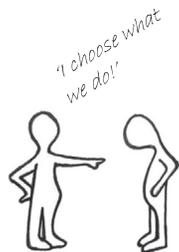
Further, recent evidence suggests that children’s conceptualizations of social rank are not always positive. For example, children associate being ‘in charge’ with not helping others [128], and by age 3, children view malevolent displays of power and status (e.g., not giving permission, taking resources) as indicative of social rank [30].

Moreover, children develop increasingly specific and nuanced ideas about the relations between social rank and various positive traits. For example, whereas 4–5-year-old children in one recent study associated prosociality and effort with being rich, these associations weakened with age, such that, by the late elementary school years, children instead associated these traits with being poor [76]. Providing further evidence of specificity to children’s thinking about social rank, 5–10-year-old children in India predicted that lighter-skinned South Asian and White boys would be chosen as class president but not necessarily for other positive (but relatively lower-status) classroom roles [18]. Together, these findings demonstrate specificity to children’s reasoning about social rank, while at the same time underscoring the close ties between social hierarchies and social preferences, both in children’s reasoning and in the world.

tended to place boys higher than girls, an effect that was particularly strong among boys ([15]; similar evidence from children in France, Lebanon, and Norway is given in [17]). Moreover, although girls showed strong ingroup favoritism when asked which characters they preferred, at no age did girls place girl characters above boy characters on the ladder, and, with age, girls’ placement of girls increasingly declined [15].

Matching to interactions

Example task:



‘In this picture, there is a boy and a girl. Which one is the (boy/girl)?’

Matching to resources or roles

Example task:

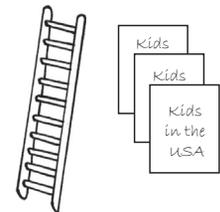


‘Can you put each kid in the house they live in?’

Matching to abstract depictions

Example task:

‘People on the top of the ladder have a lot of money, live in big houses, and have good education and jobs. People at the bottom...’



‘Can you put each kid/group where you think they go on the ladder?’

Trends in Cognitive Sciences

Figure 2. Three common methods to examine children’s awareness of group-based hierarchies. (Left) Tasks in which children are asked to match individuals and groups to interactions. (Center) Tasks in which children are asked to match individuals and groups to different resources (in terms of quality or quantity) or roles (e.g., occupations, positions in a classroom). (Right) Tasks in which children are asked to match individuals and groups to abstract depictions of hierarchical dimensions. These methods are flexible with respect to the hierarchy-related concepts they can be used to measure (e.g., wealth, power, and status, as well as multiple concepts simultaneously). In the above examples, matching to interactions is being used to assess children’s thinking about power (e.g., [17]), matching to resources/roles is being used to assess children’s thinking about wealth (e.g., [14,15,27]), and matching to abstract depictions is being used to assess children’s thinking about status and wealth (e.g., [16,59], also [15,19] which use a similar method to measure children’s thinking about power and wealth).

Children likewise view boys and men as more likely to hold high-status roles. For instance, when asked to draw a leader, elementary school-age children in India and the USA were more likely to draw boys and men (vs. girls and women) [18,36], and children also tend to choose boys more often than girls for leadership roles ([18], also [39]). By age 6, children in the USA also associate (White) men more than women with being 'really, really smart' [40,41], which is notable given that (i) by adulthood, judgments of competence are central to conceptualizations of status (e.g., [42]), and (ii) associations between brilliance and different fields predict actual patterns of gender representation across fields [43]. Children even use gender to guide their thinking about the status of novel roles. In one study, when children in the USA were asked questions such as how important fictional jobs are and how much money people with them earned, 11–12-year-old children (but not 6–8-year-old children) inferred that jobs presented with women workers were less important and lower-paying than jobs paired with men [44]. In sum, children's thinking about social rank becomes gendered: children view gender as informing who holds higher rank in ways that reflect real-world gender gaps in wealth, power, and status that tend to favor men.

Children's thinking about race and social rank

Children's expectations and evaluations of other people are also shaped by cues to people's race (e.g., [45,46]; but for evidence that thinking about race develops more gradually than thinking about gender, see [47,48]). Beginning in childhood, even children's racial preferences reflect an awareness of group-based hierarchies: whereas children from racial groups with greater wealth, power, and status tend to prefer their own group (e.g., [49]), ingroup favoritism is often absent (e.g., [50–52]) or even reversed (i.e., in favor of an outgroup; e.g., [19,53,54]) among children from racial groups with less wealth, power, and status. Moreover, children's relative preferences between racial groups other than their own tend to parallel group-based hierarchies and attitudes in the world [16,55–57] (Box 2).

Children's attunement to racial hierarchies is also evident in studies that directly examine children's race-based inferences. For instance, by age 4, children in the USA predict that White people have more and better resources than Black people [15,27,58] (Figure 2). Similarly, children in South Africa associate higher-value belongings with White people over Coloured people (i.e., multiracial people), and Coloured people over Black people, thus reflecting the racial hierarchy once institutionalized and still pervasive in their country ([14], also [53]).

There is growing evidence that children also use race to guide their thinking about others' power and status. In one study, 7–10-year-old Chinese American children introduced to a status ladder (similar to the rope ladder described earlier; Figure 2) predicted that White children, but not Black children, would be at the top ([59]; cf. [15] in which 3–6-year-old children in the USA did not make this inference). Notably, research suggests children make similar predictions even in contexts where White people are not the numerical majority (Box 3). For instance, Black African children in a homogeneous Black community in Uganda placed White children above Black children on a status ladder [19]. In another study where children predicted which student in a class had been chosen as class president, 5–10-year-old children in India tended to select White and lighter-skinned South Asian students and were unlikely to select Black and darker-skinned South Asian students; this pattern reflects the roles of race and skin tone (i.e., colorism) in children's leadership cognition ([18]; for evidence that children in the USA view race as influencing election outcomes, see also [38,60]). As with gender, race also seems to inform children's thinking about novel occupational roles: in one study, 6–7-year-old Black children in the USA indicated that fictional jobs portrayed with White employees were more important and higher-paying than jobs portrayed with Black employees or both Black and White employees [61]. Thus, children also view race as informing social

Box 3. Context matters

Both what and how children learn about group-based hierarchies is substantially tuned by children's social environments (e.g., country, region, culture). Regarding what children learn, there is variation across contexts in which aspects of social rank (e.g., wealth, power, status) are most valued, and recent research suggests that this variation is evident in young children's reasoning. For example, preschool-age children in France prefer dominant individuals more than preschool-age children in Japan do [129], mirroring differences in adults' relative valuation of dominance across these contexts ([129]; for similar findings with 5–12-year-old children in the UK and China, see [31]).

Contexts also vary in terms of which social categories (e.g., gender, race, ethnicity, language, religion, immigration status, etc.) are most prominent in people's conceptualizations of the social world. Such variation likely informs which group-based hierarchies are most salient to young children growing up in different contexts. In other cases, group markers – and associated hierarchies – may be similarly salient across contexts. For example, recent research in Lebanon, France, and Norway (countries with notable variation in gender inequality) found substantial similarity in preschool-age children's reasoning about gender and social rank [17].

Regarding how children learn about group-based hierarchies, children's contexts inform the observations they can make and from whom and what experiences they learn. Even children who show similar thinking on the surface may learn in vastly different ways. For example, there is evidence that children in India (e.g., [18]), South Africa (e.g., [14]), Uganda (e.g., [19]), and the USA (e.g., [27]) associate White people with high social rank, but children in these four countries live in very different racial landscapes. Important unanswered questions concern whether the way children learn about group-based hierarchies (independent of the content of children's thinking) holds keing consequences, such as for the approaches that are most effective in reshaping intergroup biases across contexts. Further, identifying contexts in which children do not make group-based predictions about social rank can illuminate what contextual features produce differing patterns of early-life thinking. For example, recent research conducted in the Dominican Republic – where multiracial individuals are the numerical majority and race is largely conceptualized as a continuous (vs. discrete) construct – found little evidence that 6–11-year-old children used race as a cue to wealth or status [130]. In sum, context matters for children's thinking about group-based social hierarchies, and an understanding of cross-contextual variation can provide valuable insight into how learning about group-based hierarchies occurs.

rank, reflecting an awareness from an early age of racial hierarchies and inequalities that are visible in the world.

Other social categories and intersectional considerations

Children's awareness of group-based hierarchies is not limited to their thinking about gender and race but extends to other social categories that are constructed and reinforced by society (e.g., nationality, accent, language). For instance, 7–12-year-old children in Iran view American children as higher-status than Iranian children [16], 9–10-year-old children in the USA view speakers of Northern-accented (vs. Southern-accented) American English as more likely to be 'in charge' [62], and 5–10-year-old children in India view speakers of British English as 'better leaders' than speakers of Indian English, Tamil, or Hindi [63].

At the same time, our focus on gender and race above reflects the fact that most research on children's thinking about group-based hierarchies has focused on these two social categories. There remain many questions regarding children's thinking about social rank and other social categories, including **intersectional** categories (e.g., gender and race) (see [Outstanding questions](#)). Children consider social categories in intersectional ways [64,65], and preliminary evidence indicates that intersectional considerations extend to children's thinking about hierarchies between groups [18,41]. However, many questions remain unanswered in this space.

Mechanisms of learning about group-based social hierarchies

Focusing on children's developing thinking, both within and across cultures, provides opportunities to identify the inputs through which group-based hierarchies become represented in people's minds. Further, uncovering how children come to think about group-based hierarchies can provide insight into how intergroup biases related to the relative social rank of different groups may be

mitigated and reshaped – especially early in life when children’s attitudes are still forming and may be more malleable.

Direct observations

One way children could learn about group-based hierarchies is by directly observing differences in the wealth, power, or status of different groups. As noted earlier, children are well attuned to markers of social rank (e.g., [29,30]). Moreover, children are excellent at pattern detection across a variety of domains (e.g., [66]). To test children’s ability to learn from patterns of social rank across groups, researchers [67] showed 4–5-year-old children simple pictures in which people from two novel groups were paired with high-wealth versus low-wealth homes. The researchers focused here – as in many studies reviewed in this section – on children’s thinking about novel groups to eliminate the possibility that children enter the study with prior knowledge of, or diverse experiences with, the groups under study. After viewing the pictures, children later generalized the patterns they observed to new members of the groups. Moreover, when children were assigned to either the high- or low-wealth group, only children assigned to the high-wealth group reported liking their own group over the other group [67]. Importantly, the researchers never labeled or otherwise pointed out that the groups differed in wealth. Such findings reveal children’s capacity for rapid learning – purely through observation – about correlations between groups and social rank.

Direct observations of particular group-based hierarchies may not always be possible in children’s local environments (Box 3). For example, in studies described earlier, children in India associated leadership with White and lighter-skinned South Asian boys although they lived in a region where nearly everyone is darker-skinned [18], and children in Uganda with little exposure to White individuals identified White children as higher-status than Black children [19]. In such cases, and in general, children may also learn about broader patterns in society from media and other materials (e.g., TV, magazines, and religious and educational materials [18,19,68,69]).

People’s nonverbal behaviors and intergroup interactions

Other people (e.g., parents, teachers, peers) also play a central role in transmitting information about group-based hierarchies. One way children could learn about the relative rank of different groups from other people is by observing others’ treatment of people from different groups (including children themselves). Extensive research suggests that children glean information about the social world by watching others interact. Much of this research has focused on how patterns of interaction guide children’s thinking about broader social attitudes. For example, preschool-age children attend to which groups people lean in and smile toward, versus lean away from and scowl at, to infer people’s group-based preferences [70,71].

An emerging body of research suggests that children similarly watch people’s nonverbal behaviors and interactions to learn about the relative rank of individuals [33,72] and groups [73–75]. For example, children learn about the relative status of different groups by tracking others’ social choices – which groups people engage with or select for positive roles [73]. In one study, after watching an agent repeatedly choose members of one group over another, preschool-age children reasoned that members of the chosen (vs. unchosen) group were more likely to be leaders [73]. Children also form attitudes about groups’ relative competence from teachers’ nonverbal behaviors (e.g., smiling vs. frowning, head nodding vs. shaking [74]) and teachers’ decisions about which groups to help [75]. Whether children view competence as indicative of status remains an open question, although, by adulthood, judgments of competence and status are closely linked ([42]; for evidence that children link wealth and competence, see [27,76]).

People's verbal statements about groups

Another way in which children learn about group-based hierarchies is through other people's verbal statements, which may play an especially central role in transmitting negative attitudes regarding the relative wealth, power, and status of different groups. Indeed, research suggests children can form negative attitudes quickly from what others say about groups: in one study, 4–9-year-old children heard explicitly negative statements about a novel group. After a single instance – and whether the information was directed at children or overheard – children were less likely to want to engage with the group's culture (e.g., to eat their food or learn their language) [77].

Of course, people often make concerted efforts not to convey negative attitudes about groups' relative wealth, power, or status. Even so children also attend to subtler elements of what people say about groups [78–80]. For example, generic statements about groups (e.g., 'girls like pink'), in contrast to specific statements about individual group members (e.g., 'this girl likes pink'), are more likely to lead children to view group membership as inherent and informative (e.g., [81,82]), which is particularly relevant given evidence that **essentialist** views of group membership predict greater endorsement of group-based hierarchies among adults [6]. Even verbal statements intended to rectify group-based hierarchies (e.g., 'girls are as good at math as boys') can unintentionally reinforce them by positioning one group (here, boys) as the point of reference [83]. Thus, both the plain content and the subtler structure of others' verbal statements can shape children's learning about groups' relations to one another.

Importantly, in some cases, the absence of verbal input may also shape children's thinking about group-based hierarchies (e.g., 'colorblind' parenting [84]). Without a framework through which to interpret the social rank asymmetries they observe, children may see group-based inequities as the way things should be [85,86] or as reflecting inherent characteristics of groups [87]. On the flip side, talking to children about the structural and historical origins of group-based hierarchies can help to mitigate and reshape the development of intergroup biases related to social rank [88,89]. We return to these points below in discussing how children explain group-based hierarchies.

Integrating cues to group-based social hierarchies

A complete picture of how children learn about group-based hierarchies will involve understanding how various inputs work in tandem to shape children's thinking. When inputs align, they may be especially impactful. In other cases, inputs may not align. As one example, children may hear adults say that both boys and girls are leaders but more often observe boys and men in leadership roles. Important unanswered questions concern how children integrate cues to group-based hierarchies and how matches versus mismatches in cues inform children's developing thinking.

Responding to group-based social hierarchies

So far, we have discussed what children learn about group-based hierarchies and how this learning occurs. With age, however, children also become increasingly active participants in the societal systems about which they learn, and encounter situations in which they can endorse group-based hierarchies or take actions to change them. Indeed, an awareness of group-based hierarchies provides a foundation on which both stereotyping of individuals and efforts to rectify group-based inequities can form. Understanding what factors shape children's responses to group-based hierarchies is particularly important for understanding how systems of inequity are perpetuated across generations and for illuminating potential entry points for change.

In the following section, we review recent research focused on the routes through which children come to uphold or challenge group-based hierarchies. In synthesizing this literature – most of which has focused on children's responses to group-based resource inequalities and social

exclusion – we identify four factors that inform children's responses: (i) children's explanations of group-based hierarchies, (ii) children's age, (iii) children's and their parents' support for social hierarchy, and (iv) children's own social standing.

Inherent versus structural attributions

One factor shaping whether and how young children respond to inequities between groups is the extent to which children view differences in groups' social rank as reflecting inherent differences between groups [87,90–93]. Specifically, the more children view group-based hierarchies as reflecting intrinsic differences in the characteristics or abilities of different groups, the more likely children are to endorse and perpetuate group-based inequities. By contrast, the more children view group-based hierarchies as the product of extrinsic societal structures that benefit some groups over others, the more likely children are to challenge and rectify inequities between groups. For example, in one study, the more 4-year-old children in the USA attributed racial wealth inequality to 'who (people) are on the inside' (inherent explanation) versus 'things that happen in the world' (structural explanation), the more they preferred to play with White over Black children [93]. Similarly, when introduced to a status disparity between two novel groups, children who heard an extrinsic (vs. intrinsic) framing for the disparity were more likely to suggest structural interventions and to want to befriend members of the lower-status group ([91], also [87]).

Despite the benefits that structural understandings of group-based hierarchies hold, there is evidence that children more readily attribute group-based hierarchies to inherent (vs. structural) causes [94–96]. In the study just mentioned [91], children who heard neutral framing reasoned identically to children who heard inherent framing, suggesting that inherent explanations may be the default. Indeed, in another study, 5- and 8-year-old children who were asked to explain an inequality between two novel groups were considerably more likely to generate inherent (vs. structural) explanations [94].

In sum, an awareness that group-based social rank asymmetries are due to structural causes (vs. inherent features of groups) leads children to rectify group-based inequities and lessens children's tendency to form negative attitudes about groups with lower wealth, power, or status [87,91,93]. However, children's capacity to reason about the structural causes of group-based hierarchies seems to depend on explicitly providing children with a structural framework. When left to draw their own conclusions, children tend to view descriptive differences between groups as inherent distinctions between them [87,90] and even as the way things ought to be [85,86].

Changes over development

Children's responses to group-based hierarchies also shift with age. Young children typically endorse and perpetuate group-based hierarchies [87,97,98]; it is not until later in the elementary school years that children typically challenge and rectify inequities between groups [76,98–100]. Even in cases where younger children do challenge group-based inequities, their tendency to do so increases with age (e.g., [101]). Further, older children are more likely than younger children to view and explain group-based hierarchies through a structural lens [94,95]. One possibility is that children's explanations for group-based hierarchies and their responses to them develop in parallel.

It is notable that even adults show a tendency toward generating inherent explanations for group-based social rank asymmetries [94] – whereas adults reason easily and automatically about social hierarchies [102,103], thinking about equality takes greater effort [103]. For example, when told to think quickly (vs. carefully), adults allocated significantly more resources to high-status (vs. low-status) groups [103]. Often, perpetuating group-based hierarchies involves simply going along

with an existing societal system, whereas challenging the *status quo* requires effort and an explicit awareness of inequities between groups.

Open questions concern whether and how children's rectification of group-based inequities in experimental settings translates into real-world action, particularly when a child's own group is advantaged or when the presence of inequity may be less tangible. Indeed, whereas preschool-age children in one study rectified a resource inequality they were explicitly aware of, children tended to perpetuate the inequality after time had passed and the resource inequality was no longer visible [104].

Individual differences in support for hierarchy

A third factor shaping children's responses to group-based hierarchies is the extent to which children – and their parents – view social hierarchy as desirable [i.e., **social dominance orientation (SDO)**] (e.g., [3,4,9]). By adulthood, the more people view hierarchies as the natural ordering of the world, the less they tend to support efforts aimed at rectifying group-based inequities (e.g., [3,7,10]). For years, researchers largely assumed individual differences in SDO appear only in early adulthood (review and discussion in [105]). However, in recent years, developmental research has uncovered expressions of individual-level variation in support for group-based hierarchies much earlier in life [105–109].

In one study [106], 4–5-year-old children watched an ingroup member withhold a scarce resource from an outgroup member. Later, when asked to distribute resources between the ingroup and outgroup characters, children's allocations depended on the SDO of their parents: whereas children whose parents reported low support for hierarchy tended to penalize the ingroup character (by allocating more resources to the outgroup character), children whose parents reported high support for hierarchy tended not to do so [106]. In another study, 3–11-year-old White children in Italy whose mothers reported low (vs. high) SDO were more disapproving of ingroup members who favored White over Black characters in their resource allocations ([107], also [108]).

Myriad questions remain unanswered regarding the emergence and development of SDO and related ideologies (e.g., system justification, authoritarian values), and ongoing efforts are focused on developing measures of these ideologies in young children (rather than using measures from parents) (e.g., [109]). Better understanding the development of sociopolitical worldviews during childhood and the contexts under which children's worldviews align with or diverge from those of their parents are crucial avenues for future inquiry.

Children's own social standing

A fourth factor shaping whether and how children respond to group-based hierarchies is children's own social standing (Box 4), with children from groups with more (vs. less) wealth, power, and status tending to be less likely to challenge group-based inequalities or social exclusion [110–115]. For example, there is evidence that White children evaluate interracial exclusion as less wrong than do Black children [110], and that children who self-identify as higher-wealth evaluate inter-wealth exclusion as less wrong than do children who self-identify as lower-wealth [113]. Indeed, even experimentally assigning children to a group that is advantaged (vs. disadvantaged) by a resource inequality results in children being less likely to rectify the inequality and more likely to view it as fair [114].

Children who are advantaged by group-based social rank asymmetries may struggle to take the perspective of those who are disadvantaged by group-based hierarchies or to appreciate their own advantage (i.e., **privilege**). Indeed, children experimentally assigned to a higher-status group show reduced ability to consider the mental states of others compared to children

Box 4. Children's thinking about their own social rank

By adulthood, subjective perceptions of one's own social rank predict physical and psychological health, in some cases even more than do objective measures of social rank (e.g., income, education) (e.g., [131,132]). Such findings with adults raise important questions about how young children begin to conceptualize their own social standing. Presumably, children's developing thinking about group-based hierarchies impacts not only how children think about others but also how children think about themselves.

Recent research with young children has begun to borrow tools from research with adults to investigate how children incorporate thinking about social rank into their perceptions of themselves and their own future lives. One measure used extensively with adults involves showing participants a ladder described as representing where people stand in society (i.e., with respect to income, education, and employment) and asking participants to indicate where on the ladder they view themselves (e.g., [132]). Interestingly, when shown a similar ladder measure, preschool-age children tend to view themselves positively, placing themselves at the top of the ladder [15,133,134], with no evidence that children's gender or race influences their responses [11]. However, with age, children's placement of themselves significantly declines [59,133,134], and some children's placement of themselves declines more than others: by the later elementary school years, children's placement of themselves on these ladder measures correlates with family income and parent education [113,135]. Thus, children begin holding explicit conceptions of their own social rank during early childhood. However, children's thinking about their own social rank seems to develop more gradually relative to their thinking about other people (see main text).

Recent research on children's leadership cognition reveals a similar disconnect between children's predictions of others' social rank and their thinking about themselves. For example, whereas 5–10-year-old children in India selected White and lighter-skinned South Asian students when asked to predict who had been chosen as a classroom president, boys and girls were equally likely to want to be class president themselves ([18]; related findings in [38,39]). Important questions concern the processes through which children's thinking about group-based hierarchies comes to inform children's thinking about their own social rank, and much remains unknown about the roles of children's group memberships (e.g., gender, race, nationality) and early-life experiences in these processes. A better understanding of when and how children place themselves in the group-based hierarchies about which they learn – and what implications this thinking holds – is an important area for continued inquiry.

assigned to a lower-status group [116]. It is an open question whether perspective-taking may help to explain the relation between children's social standing and their likelihood of challenging group-based hierarchies. However, providing indirect evidence for this possibility, recent research reveals links between children's perspective-taking skills and their likelihood of correcting self-benefiting resource distributions [117], and also between children's sympathy and their reactions toward exclusion of lower-income peers [118].

As children grow into adolescents, and later adults, there are many ways beyond the scope of this paper – and early childhood – that people can respond to group-based hierarchies (e.g., [119] for anti-racism in adolescents). However, early-life tendencies to perpetuate group-based hierarchies and link them to inherent causes illuminate ways of thinking that may be particularly intuitive across the lifespan, and underscore the importance of understanding structural frameworks and developing skills such as perspective-taking in efforts to rectify uneven distributions of wealth, power, and status across social groups.

Concluding remarks

Children begin recognizing, representing, and thinking about group-based social hierarchies early in life. Across early childhood, children's predictions of who is likely to hold greater wealth, power, and status increasingly reveal learning from real-world inequities across groups. Learning about group-based hierarchies occurs through many inputs, including children's own observations and their learning from other people. Children not only learn about group-based hierarchies but become actively involved in these social structures.

An understanding of people's earliest thinking about group-based hierarchies provides a lens into the bridge between societal systems and individuals' representations of them. Continued efforts

Outstanding questions

Are different aspects of social rank (wealth, power, status) differentially salient in children's thinking about different group-based hierarchies? Related questions include whether children view various aspects of social rank as being correlated (e.g., that a group with high wealth will also hold power or status).

What do children think about group-based hierarchies at the intersection of two or more social categories? Existing research has largely examined children's thinking about social rank with respect to a single social category, but the many group memberships that people have interact to shape their identities and experiences.

How do children integrate the many cues to group-based hierarchies to which they are exposed? Researchers often isolate single mechanisms of learning, but in the world, children are exposed simultaneously to many cues to group-based hierarchies. Related questions include whether some inputs outweigh others.

How do children reason about cases in which different cues to group-based hierarchies match versus mismatch? Different cues may point to the same or different conclusions, and key questions involve how these matches versus mismatches inform children's thinking.

Do children view social hierarchies as dynamic? Group-based hierarchies – and the positions of individuals within them – can shift over time. How do children think about these changes?

What role do other developments play in children's thinking about group-based hierarchies? Future research may consider the roles of perspective-taking, empathy, and other abilities in children's thinking about and responses to social hierarchies.

How do individual differences in children's responses to group-based hierarchies develop? Open questions include what factors predict the development of explicit questioning of group-based hierarchies (e.g., anti-racism, anti-sexism), and what strategies are

to understand early-life thinking about, and responses to, group-based hierarchies (see Outstanding questions) will continue to provide insight into how people become active participants in the social world – either sustaining group-based hierarchies or taking action to change them.

most effective in dissuading children from stereotyping individuals based on group-based inequities.

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Declaration of interests

The authors declare no conflicts of interest.

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